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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/575,162	05/24/2006	Roger Roushafel	0563-1071	6823
466	7590	12/12/2007	EXAMINER	
YOUNG & THOMPSON			DUFF, DOUGLAS J	
745 SOUTH 23RD STREET			ART UNIT	PAPER NUMBER
2ND FLOOR			3748	
ARLINGTON, VA 22202			MAIL DATE	DELIVERY MODE
			12/12/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/575,162	ROUPHAEL, ROGER	
	<b>Examiner</b>	<b>Art Unit</b>	
	Douglas J. Duff	3748	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 27 September 2007.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 9-26 is/are pending in the application.
  - 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 9-26 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.
 

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) All    b) Some \* c) None of:
    1. Certified copies of the priority documents have been received.
    2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____   | 6) <input type="checkbox"/> Other: _____                          |

This Office action is in response to Applicants' Amendments filed 9/27/07.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 11 and 15 are rejected under 35 U.S.C. 112, first paragraph, as based on a disclosure which is not enabling. The subject matter contained within the predetermined functions A, B, C, F, G, H is essential for the Examiner to conduct a search for prior art. The claimed functions do not include sufficient units of measure to complete the claimed exhaust pressure equation in claims 11 and 15.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Regarding claim 13, the phrase "or the like" renders the claim(s) indefinite because the claim includes elements not actually disclosed (those encompassed by "or the like"), thereby rendering the scope of the claim unascertainable. See MPEP § 2173.05(d).

### ***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 9, 10, 12-14, 16 and 17, 19, 21, 25 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Kolmanovsky et al. (US 6035640). Regarding claims 9 and 13, Kolmanovsky et al. discloses an air supply control method for a turbocharged engine (10) having an intake manifold (26) downstream of the compressor (36) of the turbocharger and an exhaust manifold (28) upstream of the turbine (38) of the turbocharger, in which the mass air flow supplied to the engine and/or the pressure in the intake manifold (Pm) are determined, together with the temperature in the exhaust manifold (Texh), characterized in that the pressure in the exhaust manifold is determined as a function of the pressure in the intake manifold (Pm), the engine speed (N), and the temperatures in the cylinders and in the exhaust manifold (Ta, Texh), the pressure in the intake manifold being determined if necessary on the basis of the mass air flow (m) and the exhaust manifold pressure (Pexh) is measured by a sensor (54) and that the pressure in the intake is determined on the basis of exhaust pressure as a function of speed (N), cylinder and exhaust temperatures (Ta, Texh, equation 6, col. 5).

7. Regarding claims 10 and 14, Kolmanovsky et al. discloses the air supply control method of claims 9 and 13 including a correction factor dependent on the ambient surrounding pressure (Pa) provided (col. 5, equation 6).

8. Regarding claims 12 and 17, Kolmanovsky et al. discloses the air supply control method of claims 9 and 10 including a throttle valve, and when the throttle valve (col. 4,

lines 1-5) is near the closed position, the ambient external pressure (Pa) is calculated on the basis of exhaust pressure (Pexh) as a function of engine speed (N).

9. Regarding claim 16, Kolmanovsky et al. discloses the air supply control method of claim 9 including the temperature in the exhaust manifold (Texh) being determined on the basis of modeling (lookup table, col. 7, lines 35-36).

10. Regarding claims 19 and 21, Kolmanovsky et al. discloses the air supply control method of claims 9 and 13 including an air intake (42) and a mass air flow meter (64) are upstream of the turbocharger (14).

11. Regarding claims 25 and 26, Kolmanovsky et al. discloses the air supply control method of claims 9 and 13 including a correlation between a measured value (EXMP) and the determined pressure (through eqn. 6) in the exhaust manifold is greater than 0.9 (correlation is 1 when error 208, 210 is 0, col. 5, lines 45-48).

### ***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolmanovsky et al. Kolmanovsky et al. discloses the method of claim 10 including the exhaust pressure being calculated by the formula  $P_{ex} = (A(Tc)*MAP - B(N, AMP, Tex))/C(Tex)$  where A B and C are predetermined functions, Tc is the cylinder temperature, MAP is intake pressure, N is engine speed, AMP is ambient pressure and

Tex is exhaust temperature (equation 6, col. 5) and the throttle valve limitations as cited in the rejection of claim 12 above. While Kolmanovsky et al. does not explicitly disclose an engine speed, N, in equation 6, it appears to the Examiner that Kolmanovsky et al. is calculating essentially the same parameter in substantially the same way. Moreover, with the units of the equation in question (see 112 1<sup>st</sup> paragraph rejection), it is impossible for the Examiner to determine the true scope of these claims.

14. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kolmanovsky et al. Kolmanovsky et al. discloses the method of claim 14 including the pressure in the intake being calculated by the formula  $MAP = (F(N, Tex)*Pex + G(N, AMP, Tex))/(H(N, Tc))$  with FG and H being predetermined functions, Tc is the temperature of the cylinders, Pex is the exhaust temperature, N is the engine speed, AMP is the ambient pressure and Tex is the exhaust temperature (equation 6, col. 5). While Kolmanovsky et al. does not explicitly disclose an engine speed, N, in equation 6, it appears to the Examiner that Kolmanovsky et al. is calculating essentially the same parameter in substantially the same way. Moreover, with the units of the equation in question (see 112 1<sup>st</sup> paragraph rejection), it is impossible for the Examiner to determine the true scope of these claims.

15. Claims 20 and 22-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kolmanovsky et al. in view of Fausten (US 5738126). Regarding claims 20 and 22, Kolmanovsky et al. discloses the control method of claims 9 and 13, but fails to disclose an intercooler downstream of the turbocharger.

16. Fausten teaches an engine control method including having an intercooler (7) downstream of the turbocharger (3). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to utilize an intercooler downstream of the turbocharger in order to increase the efficiency of the system through cooling of the compressed intake air.

17. Regarding claims 23 and 24, Kolmanovsky et al. discloses the method of claims 9 and 13, but fails to disclose the air flow supplied to the engine being regulated by a mechanically controlled throttle valve.

18. Fausten teaches an engine control method including the air flow supplied to the engine being regulated by a mechanically controlled throttle valve (9). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to utilize a mechanically controlled throttle valve in order to accurately control the amount of air entering the engine through the intake passage.

***Response to Arguments***

Applicant's arguments filed 9/27/07 have been fully considered but they are not persuasive. Regarding the argument directed to the rejection of claims 11 and 15 under 35 USC, 112, the Examiner respectfully disagrees. The claims 11 and 15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the equations (d) and (e) found in the specification, does not reasonably provide enablement for the functions A, B, C, F, G and H. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to determine the value of N of the invention commensurate in scope with

these claims. Engine speed, N, is an angular velocity with units that would not match an enabled solution for the exhaust pressure given the claimed functions.

19. Regarding the argument directed toward the rejection of claims 9, 10, 12-14, 16 and 17, the Examiner respectfully disagrees. Kolmanovsky et al. discloses in col. 5, equation 6, a method to calculate exhaust or intake pressure given the additional parameters of ambient pressure and ambient and exhaust temperatures. Additionally, in col. 6, lines 56-61, Kolmanovsky et al. discloses the method of determining the manifold pressure without the use of a sensor (206, Fig. 2).

***Conclusion***

20. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

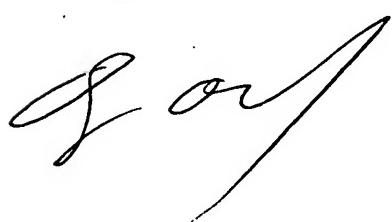
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas J. Duff whose telephone number is (571) 272-3459. The examiner can normally be reached on M-F 7 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Douglas J. Duff



12/5/07

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